EXP MAIL: EL175652083

FIG. 1

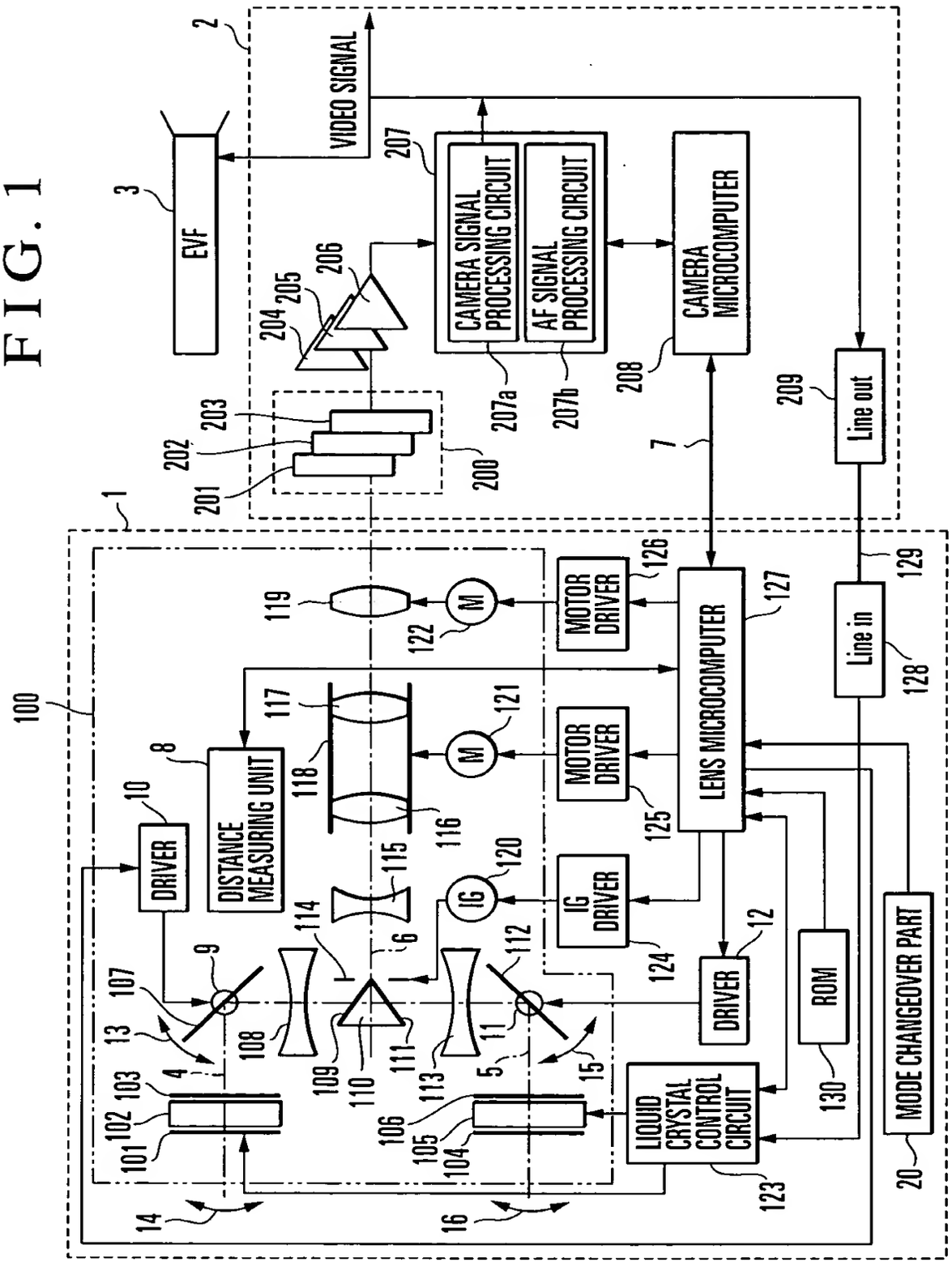


FIG. 2

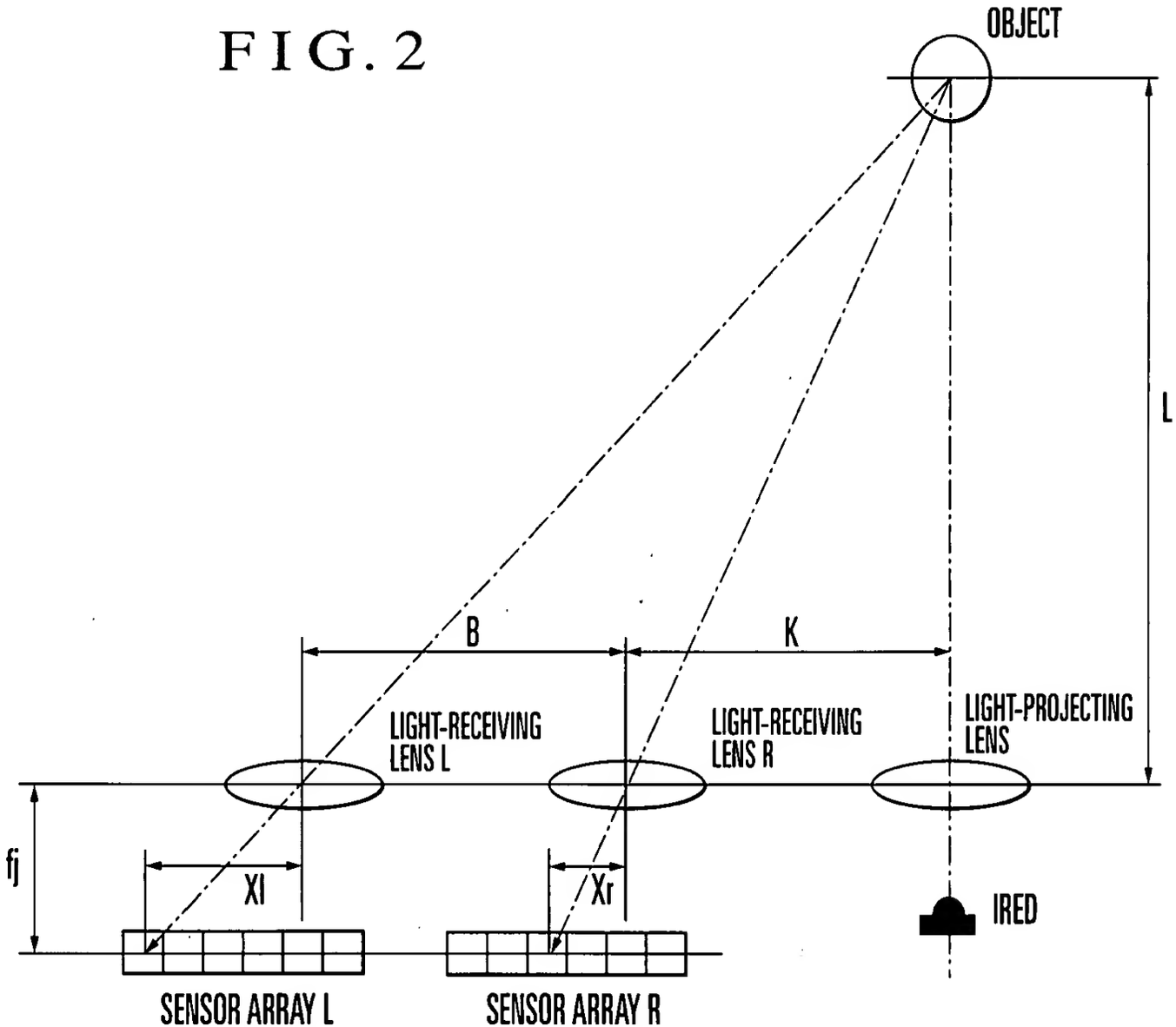

OBJECT
L
B
K
LIGHT-RECEIVING LENS L
LIGHT-RECEIVING LENS R
LIGHT-PROJECTING LENS
fj
Xl
Xr
IRED
SENSOR ARRAY L
SENSOR ARRAY R

FIG. 3

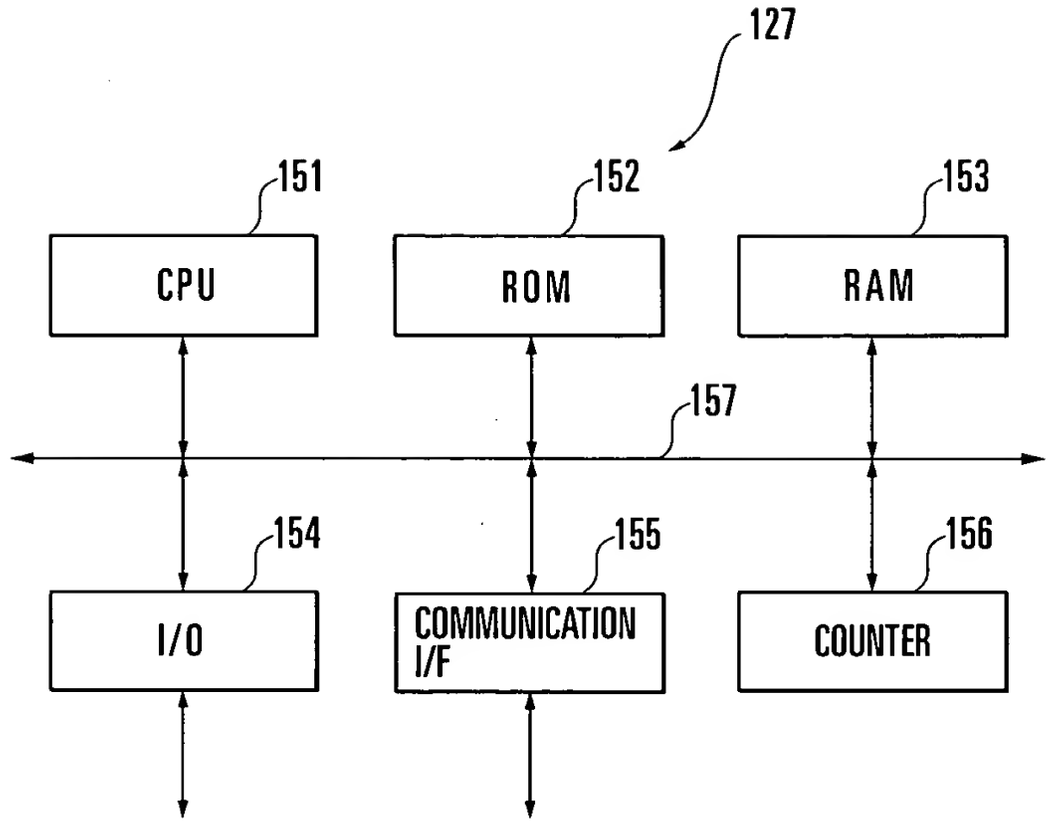

127
151
152
153
CPU
ROM
RAM
157
154
155
156
I/O
COMMUNICATION I/F
COUNTER

FIG. 4

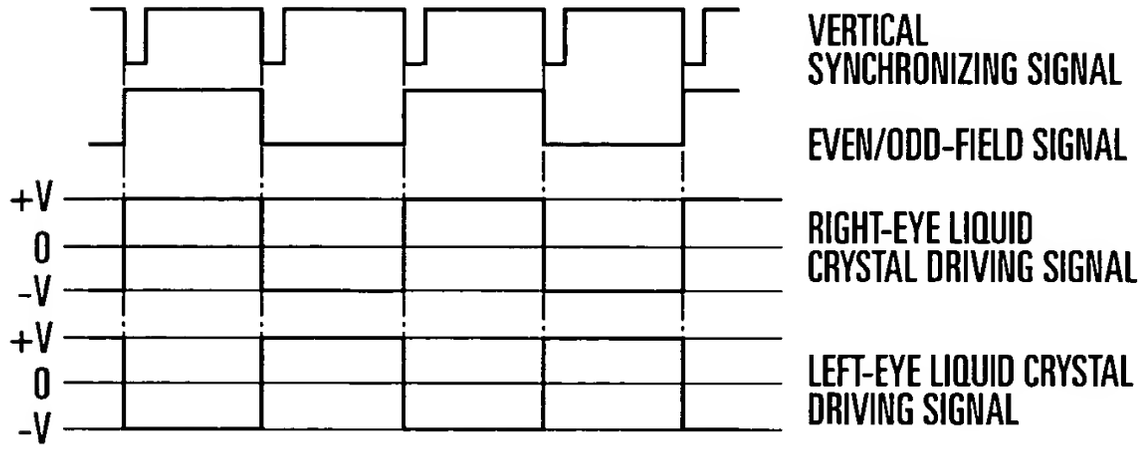

VERTICAL SYNCHRONIZING SIGNAL
EVEN/ODD-FIELD SIGNAL
+V
0
-V
RIGHT-EYE LIQUID CRYSTAL DRIVING SIGNAL
+V
0
-V
LEFT-EYE LIQUID CRYSTAL DRIVING SIGNAL

FIG. 5

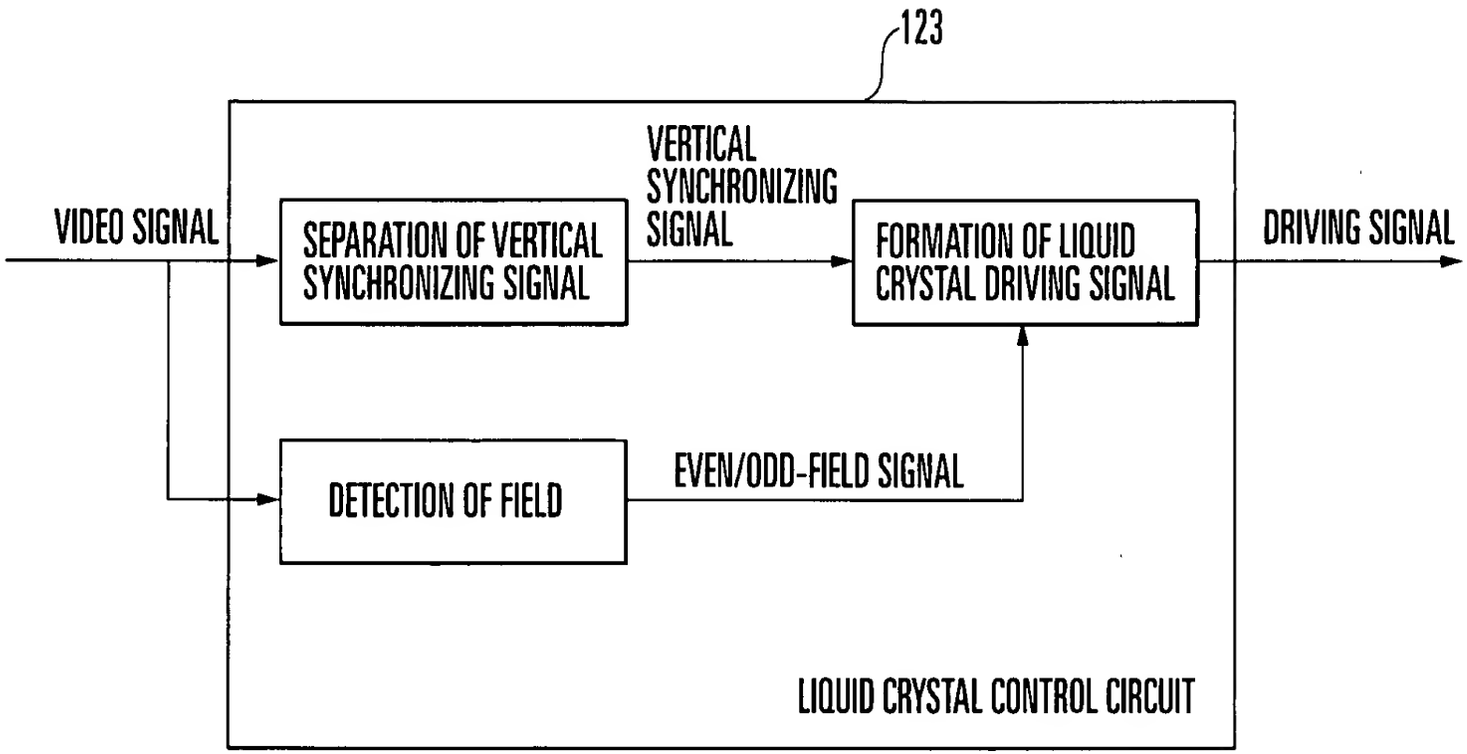

123
VIDEO SIGNAL
SEPARATION OF VERTICAL SYNCHRONIZING SIGNAL
VERTICAL SYNCHRONIZING SIGNAL
FORMATION OF LIQUID CRYSTAL DRIVING SIGNAL
DRIVING SIGNAL
DETECTION OF FIELD
EVEN/ODD-FIELD SIGNAL
LIQUID CRYSTAL CONTROL CIRCUIT

FIG. 6

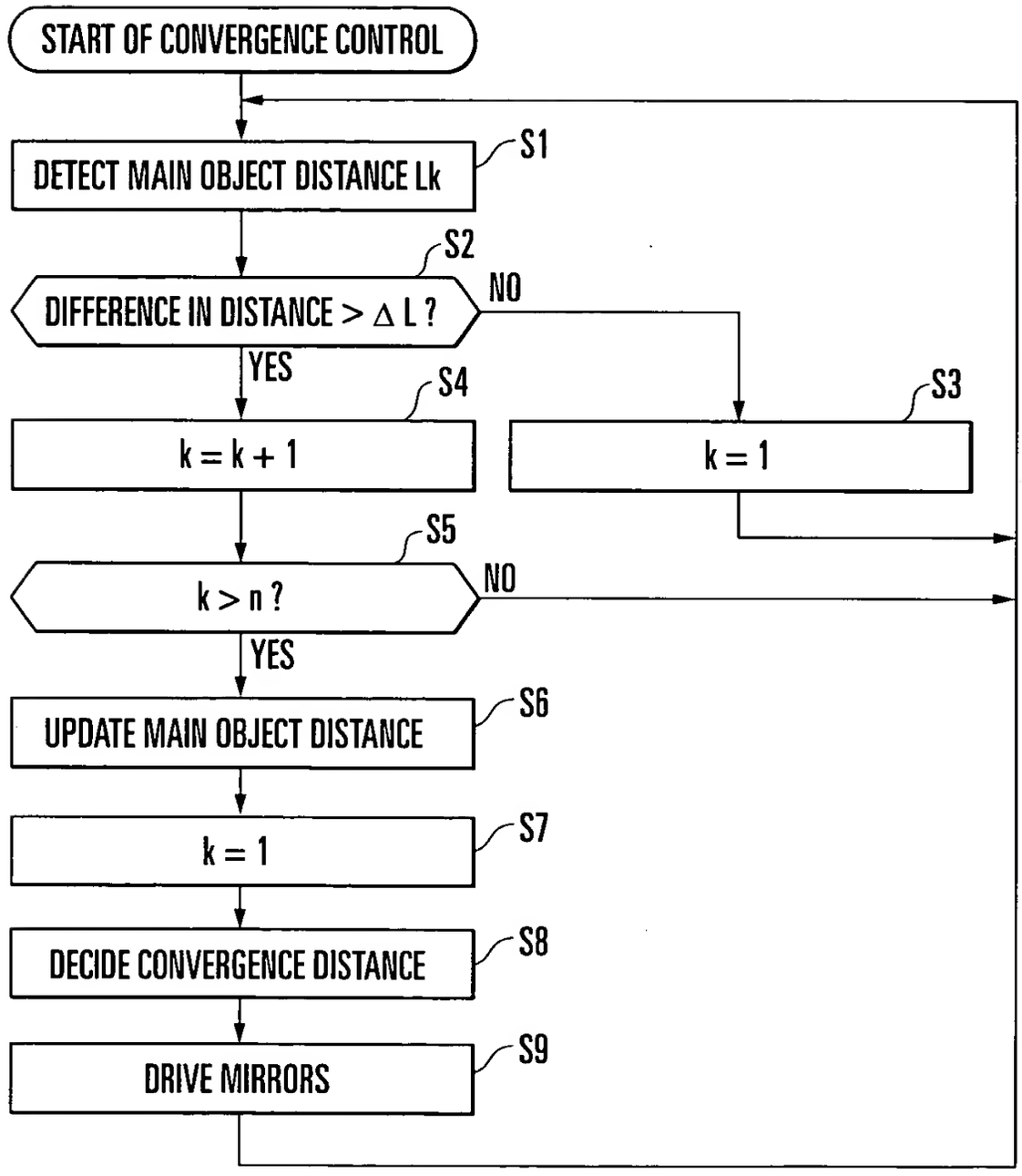

START OF CONVERGENCE CONTROL
DETECT MAIN OBJECT DISTANCE Lk
S1
S2
DIFFERENCE IN DISTANCE > Δ L ?
NO
YES
S4
k = k + 1
S3
k = 1
S5
k > n ?
NO
YES
UPDATE MAIN OBJECT DISTANCE
S6
k = 1
S7
DECIDE CONVERGENCE DISTANCE
S8
DRIVE MIRRORS
S9

FIG. 7

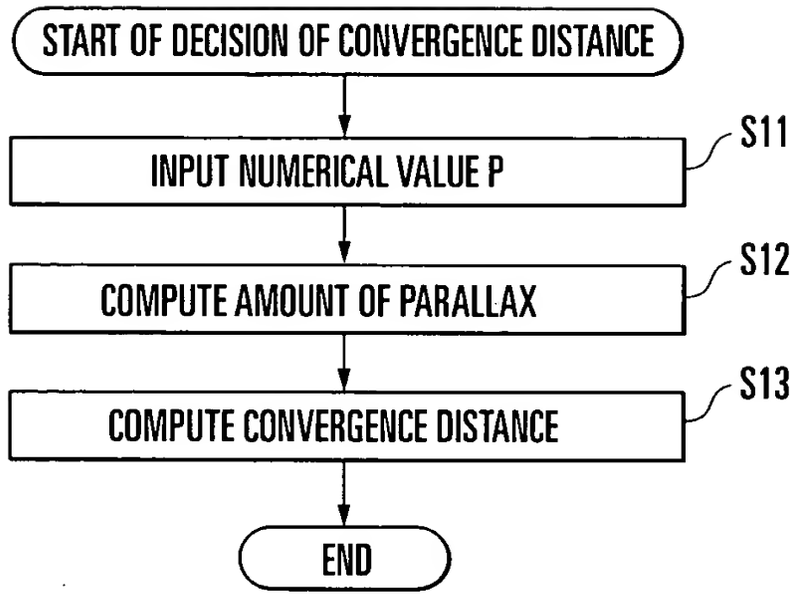

START OF DECISION OF CONVERGENCE DISTANCE
INPUT NUMERICAL VALUE P
S11
COMPUTE AMOUNT OF PARALLAX
S12
COMPUTE CONVERGENCE DISTANCE
S13
END

FIG.8(A)

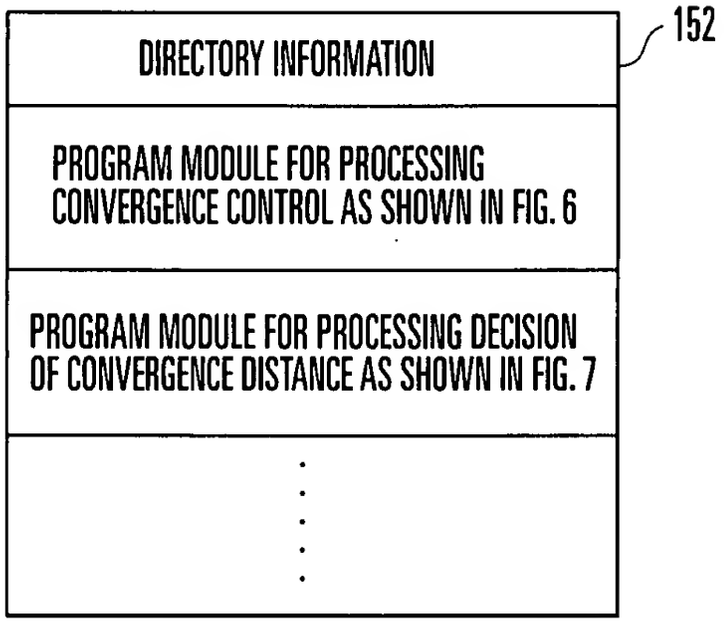

DIRECTORY INFORMATION
152
PROGRAM MODULE FOR PROCESSING CONVERGENCE CONTROL AS SHOWN IN FIG. 6
PROGRAM MODULE FOR PROCESSING DECISION OF CONVERGENCE DISTANCE AS SHOWN IN FIG. 7

FIG.8(B)

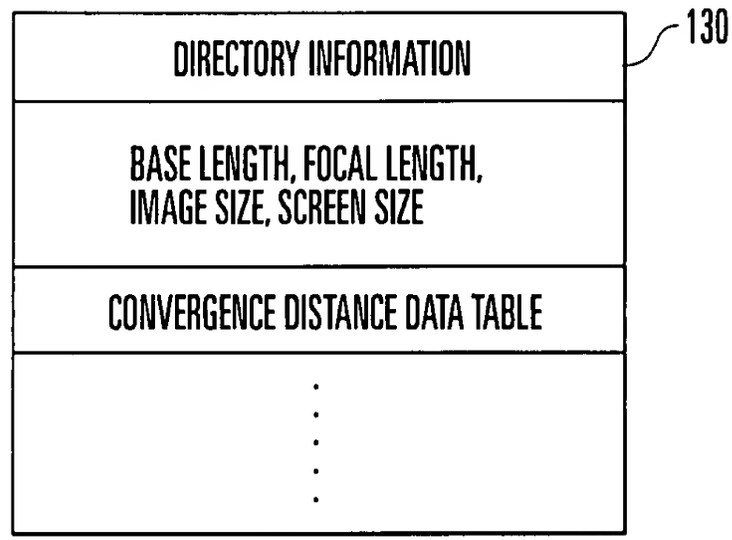

DIRECTORY INFORMATION
130
BASE LENGTH, FOCAL LENGTH, IMAGE SIZE, SCREEN SIZE
CONVERGENCE DISTANCE DATA TABLE

FIG. 9

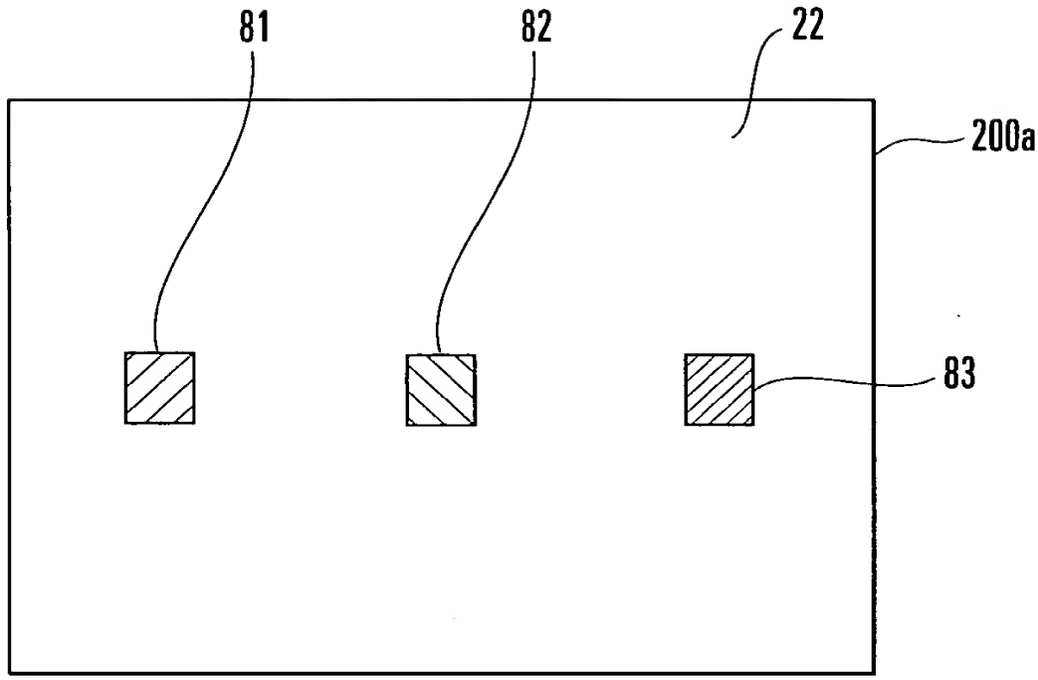
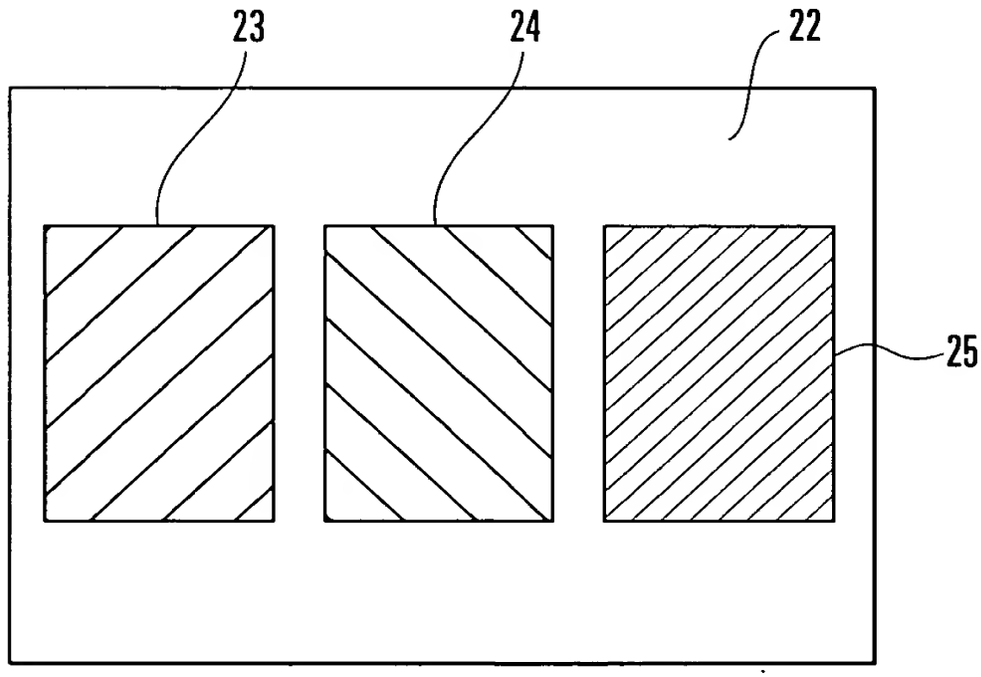


FIG. 10



09603606.050500

FIG. 11

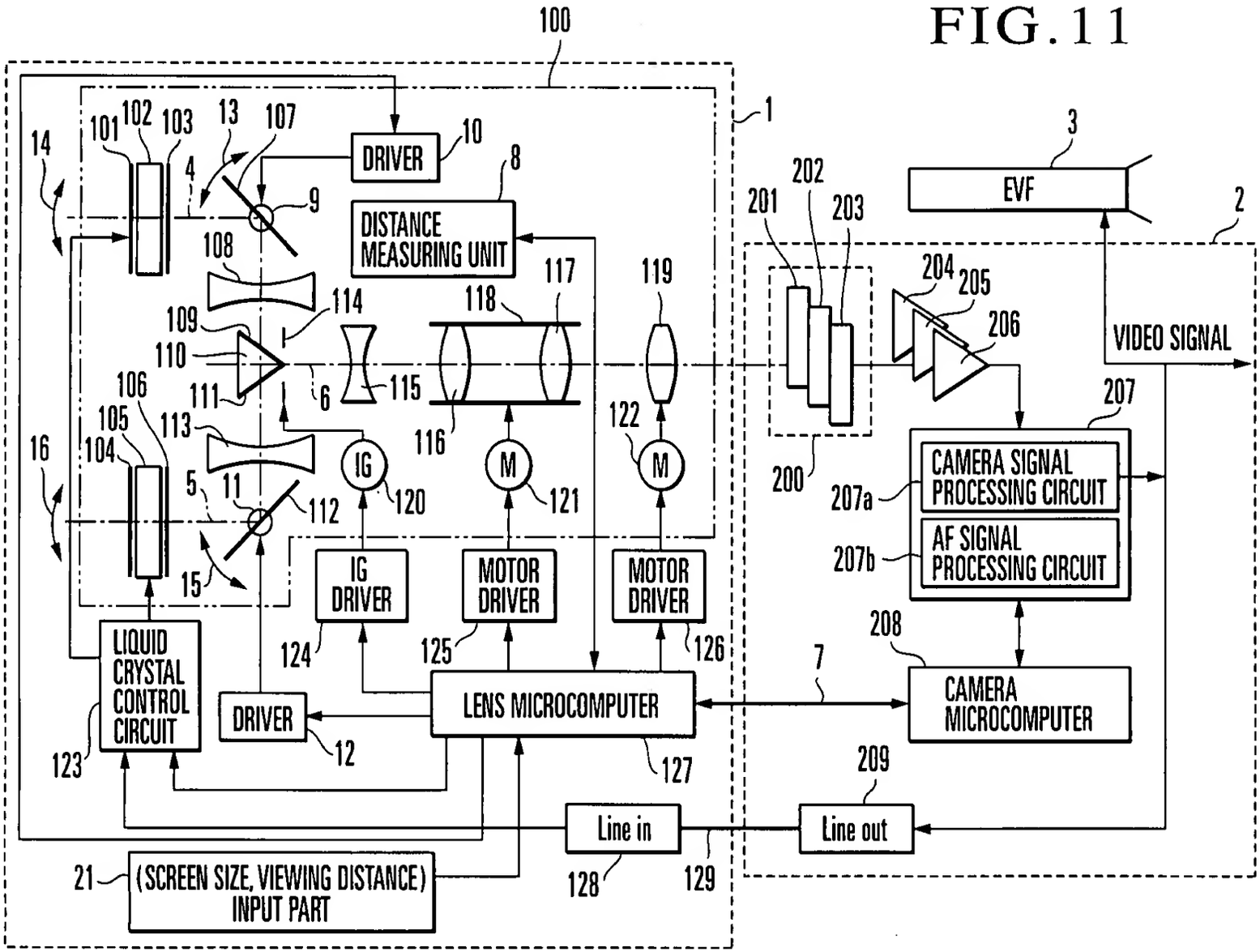
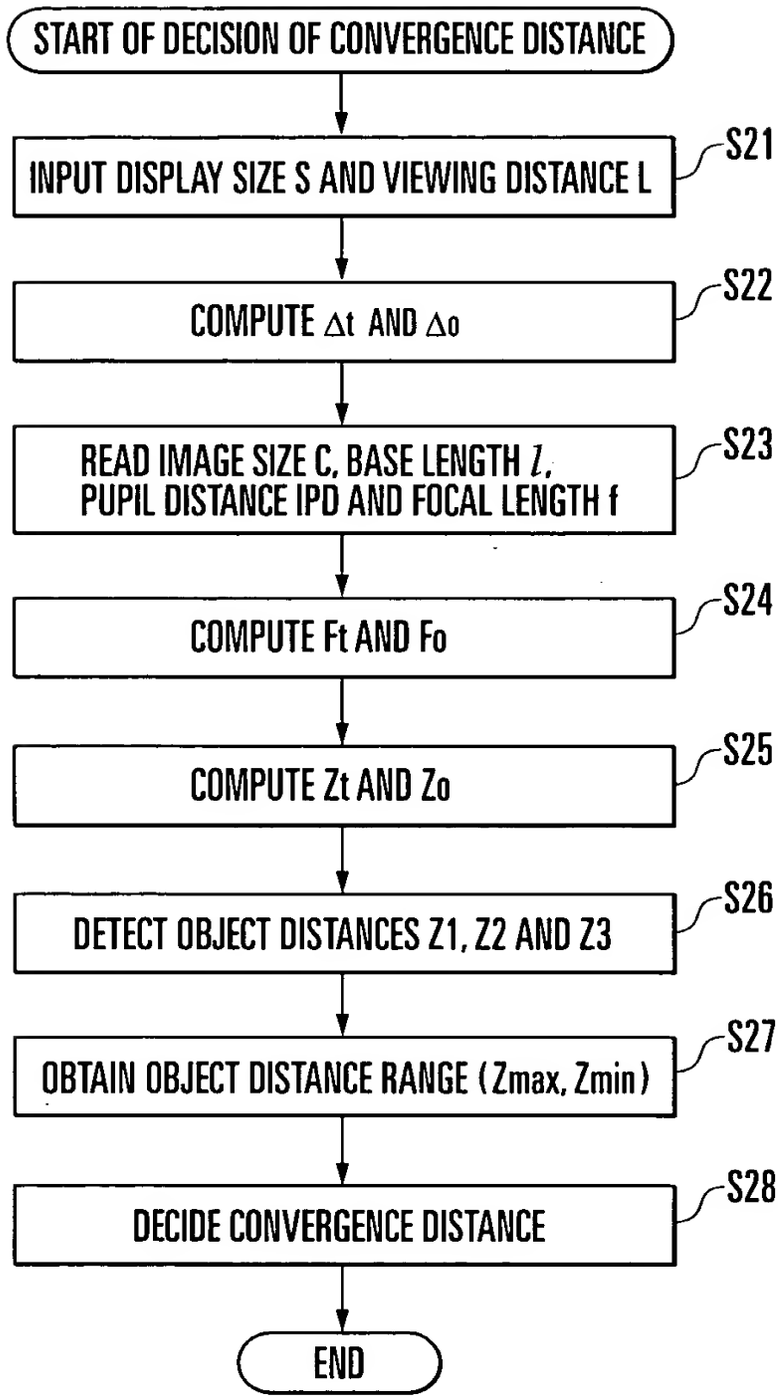
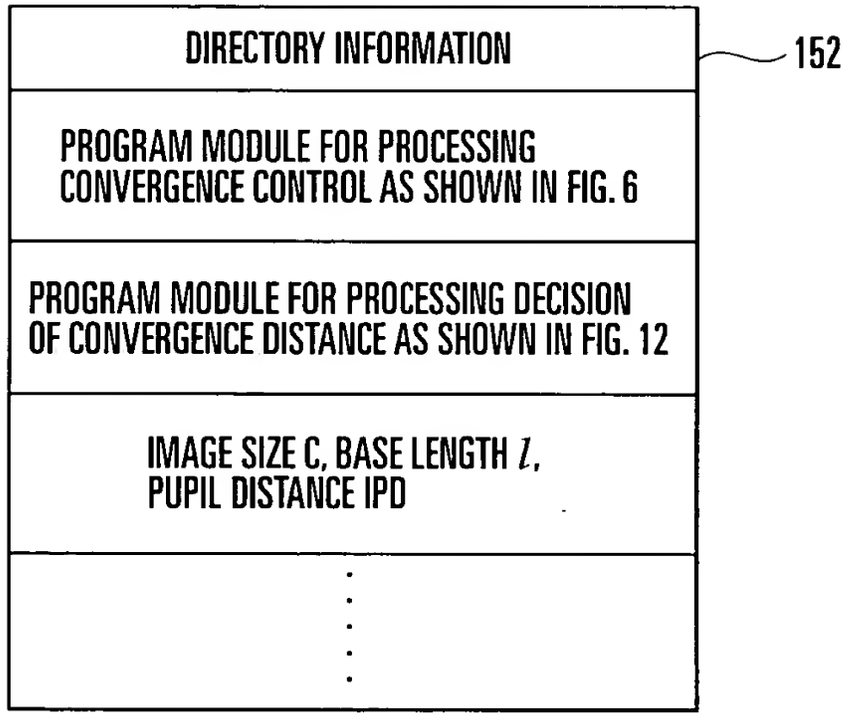

100
1
2
3
EVF
VIDEO SIGNAL
DRIVER
10
8
DISTANCE MEASURING UNIT
9
4
13
107
101
102
103
14
108
109
110
111
114
118
117
119
115
6
106
105
104
113
16
5
11
112
IG
120
M
121
M
122
116
15
IG DRIVER
MOTOR DRIVER
MOTOR DRIVER
LIQUID CRYSTAL CONTROL CIRCUIT
DRIVER
12
LENS MICROCOMPUTER
123
124
125
126
127
7
201
202
203
200
204
205
206
207
CAMERA SIGNAL PROCESSING CIRCUIT
207a
AF SIGNAL PROCESSING CIRCUIT
207b
208
CAMERA MICROCOMPUTER
209
Line in
Line out
128
129
21
(SCREEN SIZE, VIEWING DISTANCE) INPUT PART

FIG. 12



09036806-062600

FIG. 13



0960506-060200

FIG. 14

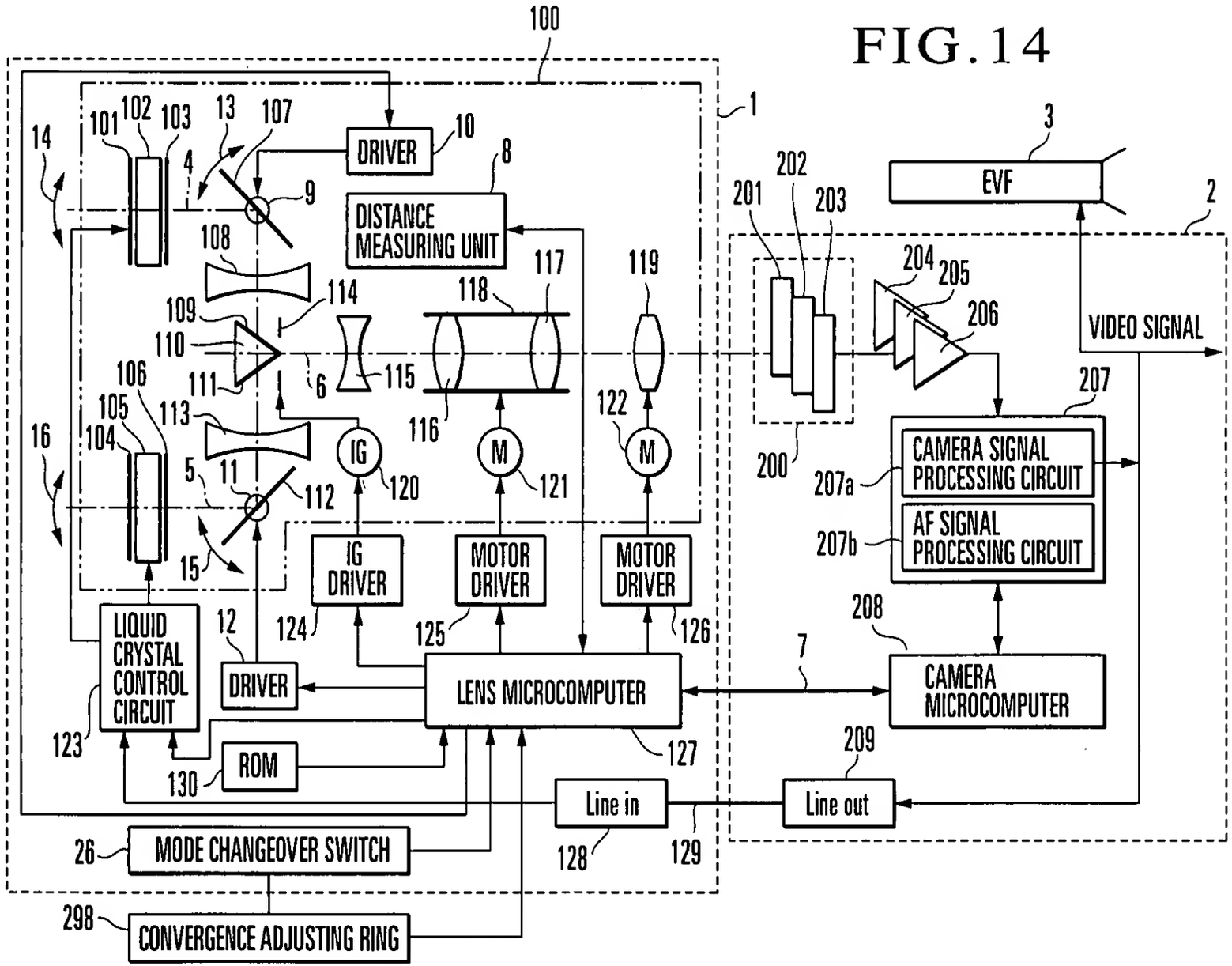

100
1
2
3
EVF
VIDEO SIGNAL
DRIVER
10
8
DISTANCE MEASURING UNIT
9
4
13
107
101
102
103
14
108
109
110
111
114
6
115
118
117
119
106
105
104
113
16
5
11
112
IG
120
M
121
M
122
116
200
201
202
203
204
205
206
207
CAMERA SIGNAL PROCESSING CIRCUIT
207a
AF SIGNAL PROCESSING CIRCUIT
207b
208
CAMERA MICROCOMPUTER
7
15
IG DRIVER
MOTOR DRIVER
MOTOR DRIVER
124
125
126
LIQUID CRYSTAL CONTROL CIRCUIT
123
12
DRIVER
LENS MICROCOMPUTER
127
ROM
130
209
Line in
Line out
128
129
26
MODE CHANGEOVER SWITCH
298
CONVERGENCE ADJUSTING RING

FIG.15(A)

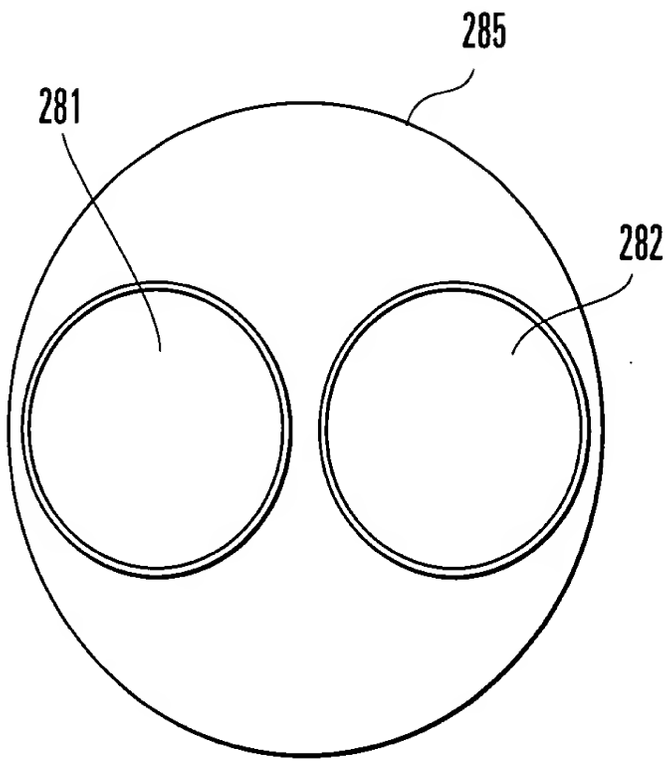


FIG.15(B)

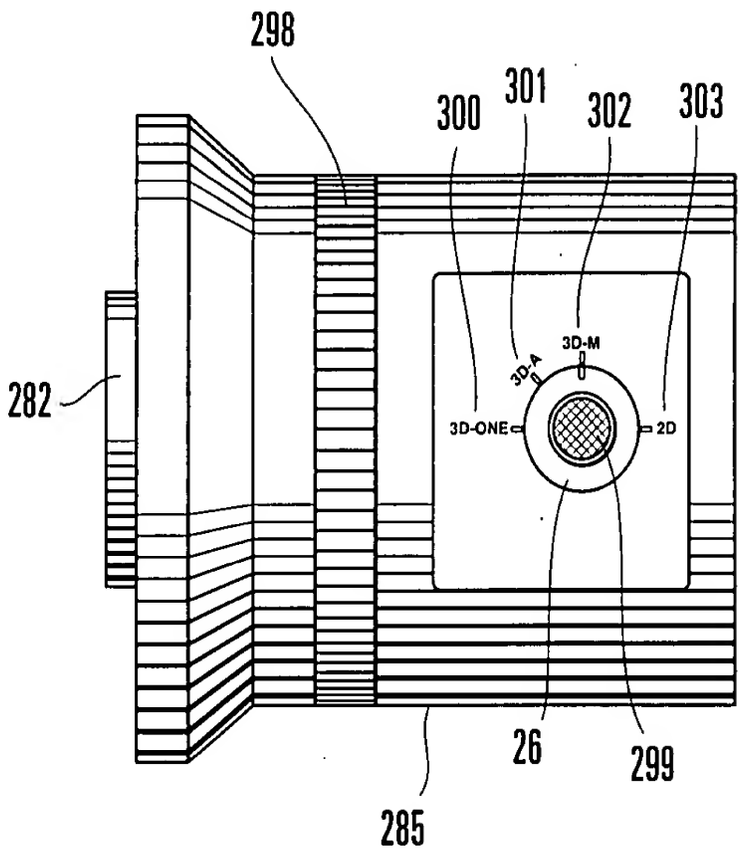


FIG. 16(A)

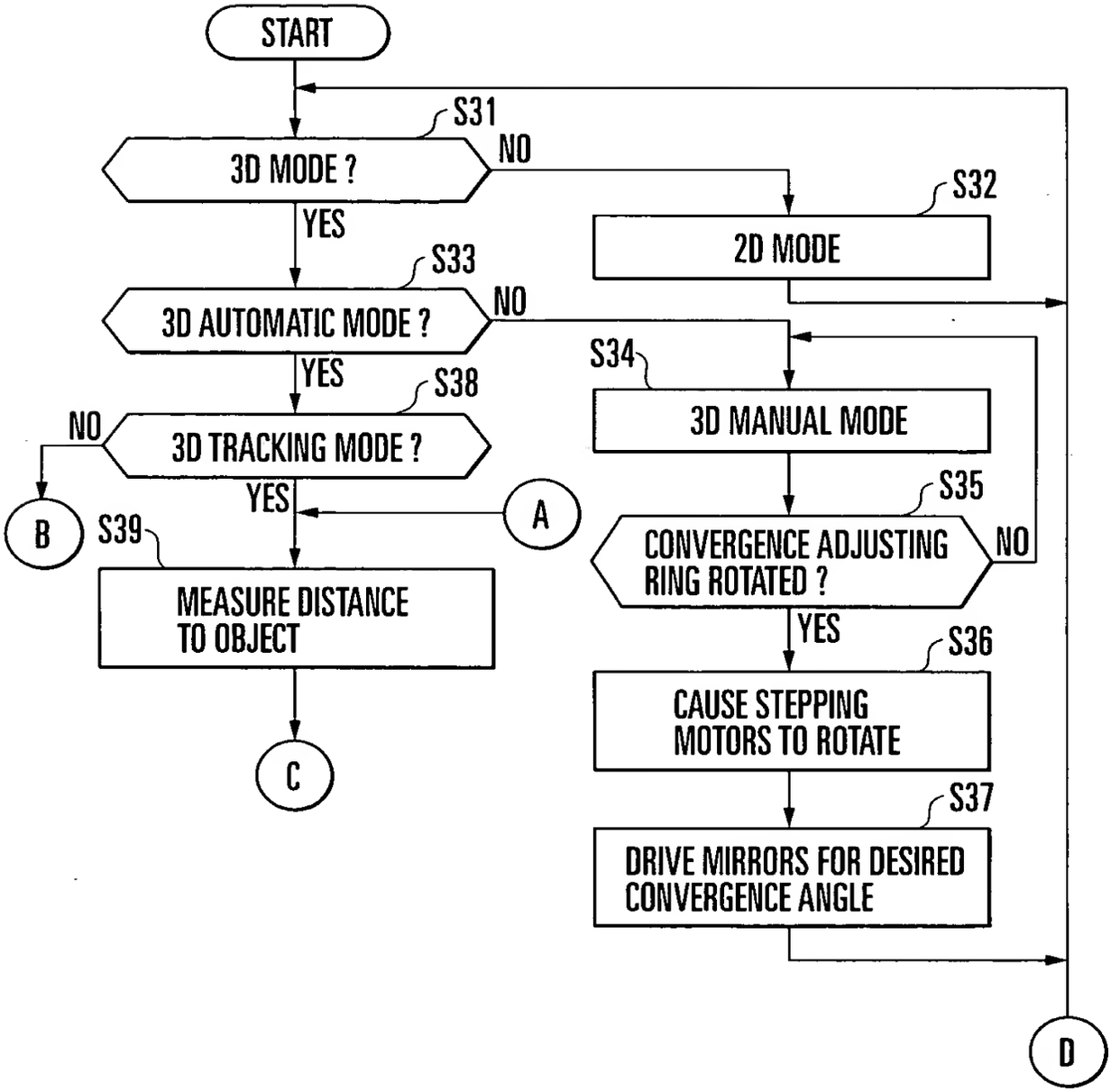
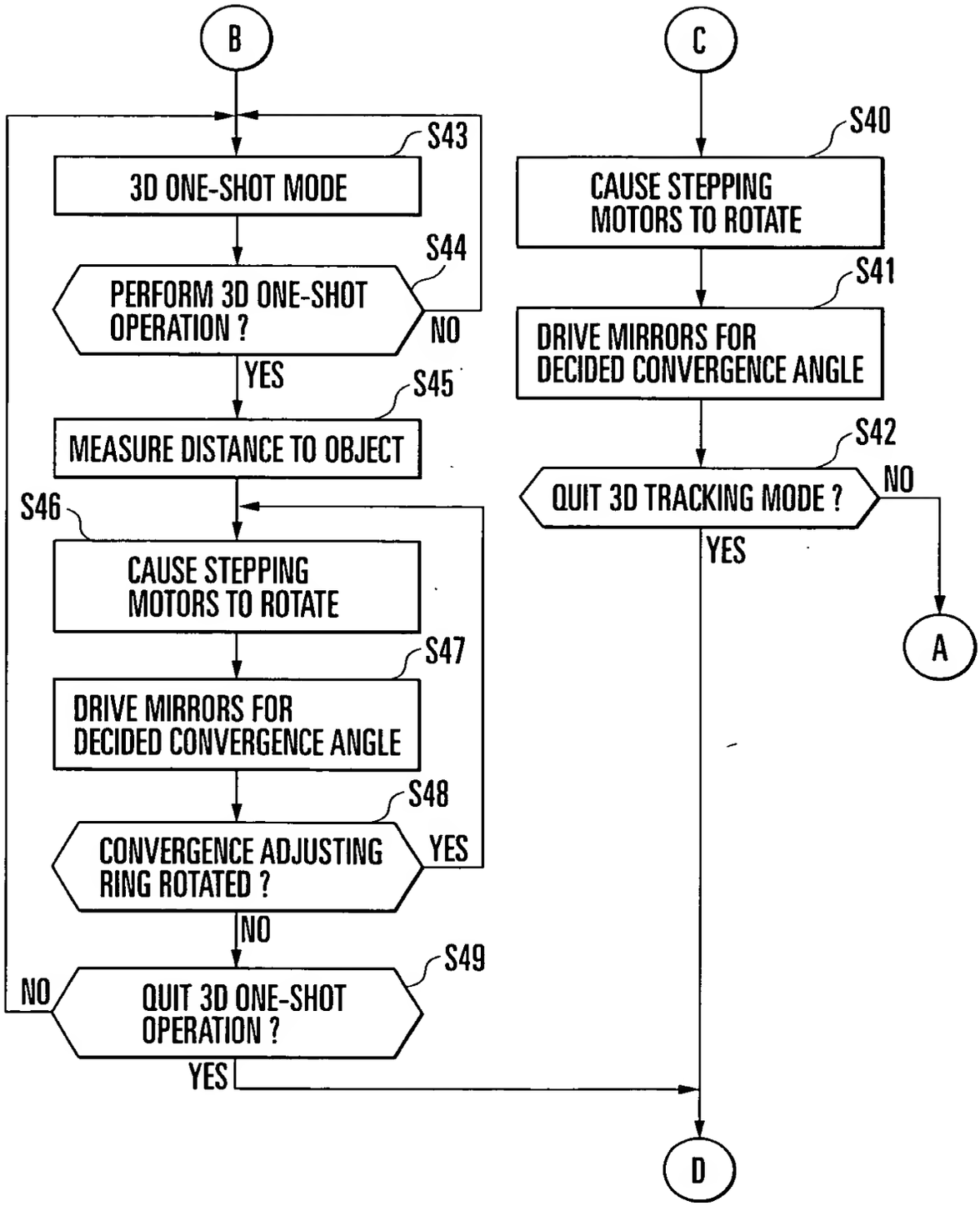

START
S31
3D MODE ?
NO
YES
S32
2D MODE
S33
3D AUTOMATIC MODE ?
NO
YES
S34
3D MANUAL MODE
S38
3D TRACKING MODE ?
NO
YES
A
B
S39
MEASURE DISTANCE TO OBJECT
S35
CONVERGENCE ADJUSTING RING ROTATED ?
NO
YES
S36
CAUSE STEPPING MOTORS TO ROTATE
S37
DRIVE MIRRORS FOR DESIRED CONVERGENCE ANGLE
C
D

FIG. 16(B)


B
C
S43
3D ONE-SHOT MODE
S44
PERFORM 3D ONE-SHOT OPERATION ?
NO
YES
S45
MEASURE DISTANCE TO OBJECT
S46
CAUSE STEPPING MOTORS TO ROTATE
S47
DRIVE MIRRORS FOR DECIDED CONVERGENCE ANGLE
S48
CONVERGENCE ADJUSTING RING ROTATED ?
YES
NO
S49
NO
QUIT 3D ONE-SHOT OPERATION ?
YES
S40
CAUSE STEPPING MOTORS TO ROTATE
S41
DRIVE MIRRORS FOR DECIDED CONVERGENCE ANGLE
S42
QUIT 3D TRACKING MODE ?
NO
YES
A
D